

REPORT / RECOMMENDATION



To: MAYOR AND COUNCIL

Agenda Item #: VIII. C.

From: Wayne D. Houle, PE, Director of Engineering

Action ☐

Discussion ☐

Date: October 1, 2013

Information ☒

Subject: Restoration of Neighborhood Reconstruction Projects

Action Requested:

None.

Information / Background:

Please recall the attached memorandum was presented to the council at the award of each of our 2013 Local Roadway Improvement Projects. The memorandum provides the reasons why we are hydro-seeding this year. This report is a status update on how this type of turf establishment is working.

The Lake Edina project had hydro-seeding completed in early August. The attached photos show the stages of the hydro-seeding process. Even with the dry conditions of August, most of the turf created by hydro-seeding has been met or exceeded our expectations and project specifications up to this point. Keep in mind, seed, just as sod, needs 2-3 years to fully establish a sound root system with adequate moisture levels. There are locations where it has not performed to our expectations or according to the project specifications. The contractor is under contract to maintain and establish turf for 90-days from the installation date. Multiple fertilizer applications have been completed and re-seeding in areas deemed bare is also occurring. Areas deemed inadequate after the 90-day warranty period will be re-done.

Communications with residents have occurred with a neighborhood wide letter dated September 13, 2013 discussing the reasons why we are hydro-seeding. The day of the hydro-seeding, the Hydro-seed Installation and Care Sheet is provided in every resident's front door to provide additional information about hydro-seeding. Hydro-seeding has also been discussed in the weekly City Extra's.

Note that a few residents have decided to sod their boulevard areas at their own cost. These areas will not be maintained or fall under the project warranty since it is outside the project contract.

Attachments:

Memorandum on Turf Establishment in Reconstruction Projects dated March 5, 2013
Lake Edina Neighborhood Roadway Improvements, Stages of Hydro-seeding
Lake Edina Neighborhood Roadway Reconstruction Letter dated September 13, 2013
Hydro-seed Installation and Care Sheet

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Date: March 5, 2013
To: Mayor and City Council
From: Wayne D. Houle, PE, Director of Engineering
Re: Turf Establishment in Reconstruction Projects

Summary:

Staff is recommending the use of hydro-seed on the 2013 projects with a revised contractor maintenance period of 90-days. Staff feels hydro-seed will better meet the long term needs of the property owners for turf establishment and at the same time reduce special assessment amounts.

Background Information:

Restoration of areas disturbed by construction operations has typically been done with the use of sod. The contractor was responsible for the establishment of sod for a period of 6 weeks (42 days) from the date of installation. After the 6 week maintenance period, areas of dead sod were removed and replaced with new sod. Maintenance on all sod after the 6 week maintenance period then became the responsibility of the property owner.

During 2012, residents and staff noticed portions of the sod installed during the 2011 construction season were not healthy. 2012 saw drought conditions for most of the year. Many of the new sod areas were brown and dormant and/or dead. This reflects badly on the construction project even though continued maintenance of the sod is the responsibility of the homeowner.

Staff hosted a "Construction Contractor Think Tank" meeting. The goal of this meeting was to determine the advantages and disadvantage of sod and hydro-seeding. We wanted a turf product that property owners would take ownership of. One they would perform the proper maintenance on to establish long lasting turf. Staff invited industry experts for this meeting held on January 7, 2013 at the Public Works and Park Maintenance Facility. Attendees included turf experts, contractors, and consultants familiar with City of Edina practices and clients. Topics discussed included watering, maintenance periods, proper long term care, turf color, installation techniques, drought, fertilizer, chemical treatments, equipment, installation dates and foot traffic.

Based on past experience and information learned from the "Think Tank" session, staff is recommending the use of hydro-seed on the 2013 projects with a revised maintenance period of 90-days. Staff feels hydro-seed will better meet the long term turf needs of the property owners.

The requirements of the Contractor include placing 6-inches of topsoil in a level and smooth manner free of stones or other debris that are over 1.5-inches in diameter. Seed, fertilizer, and soil stabilizer is placed in a uniform manner. The quality of the turf establishment is reviewed after the maintenance period. If the maintenance period does not conclude by Nov. 1, the remaining balance of the maintenance will carry over to begin on April 15 of the following year. Any turf areas' deemed unacceptable at the end of the maintenance period shall be re hydro-seeded at no cost to the City.

Staff realizes that resident education and communications is a key component in the establishment of turf using either method; sod or hydro-seed. Construction update letters and City Extra e-mails will



be used to educate the residents on proper maintenance procedures. Turf maintenance is the responsibility of the property owner after the 90-day turf maintenance period.

Table I. Comparison of Sod and Hydro-Seed

Item	Sod	Hydro-Seed
Cost	\$5.00 - \$6.00 / SY	25-50% less than sod
Water	Equal	Equal
Drought Resistance	Less than seed	Tolerant of dry conditions
Maintenance Identified by Property Owner	Appears complete, less realization of maintenance needs	Maintenance needs are apparent
Color	Some issues, defined line between new and existing turf	Tends to blend with existing turf
Appearance	Appears instant	Established over time
Installation	Labor intensive	Simple
Installation Dates	Not recommended during July / early August but can be accomplished	Not recommended from June 1 until July 20 but can be accomplished
Installation Maintenance Period	90 days recommended	90 days recommended
Foot Traffic	Not an issue	As little as possible until germination
Repairs – Cost	\$5.00 - \$6.00 / SY	25-50% less than sod
Repairs – Installation	Labor intensive	Simple
Repairs – Disturbance	Some	Minimal
Environmental Footprint	Sod is planted off-site, harvested, transported, and replanted.	Hydro-seed is planted on-site and remains on-site.

Based on a research with other communities that use hydro-seed and experience on the West 44th Street project and on information learned from the “Think Tank” session, staff is recommending the use of hydro-seed on the 2013 projects with a revised maintenance period of 90-days. Staff feels hydro-seed will better meet the long term turf needs of the property owners.

Lake Edina Neighborhood Roadway Improvements
Stages of Hydro-Seeding



Stage 1. Preparation of the Boulevard



Stage 2. Hydro-seeding of the Boulevard



Stage 3. 3-4 weeks after hydro-seeding



Stage 4. 4-6 weeks after hydro-seeding



Lake Edina Neighborhood Roadway Reconstruction

Sept. 13, 2013

Dear Resident:

The reconstruction project in your neighborhood is nearing completion.

Crews are currently working on site cleanup and miscellaneous restoration items in all stages. The contractor will return this week and hydro-seed areas in Stage 3 and add additional seed to areas that did not establish in Stages 1 and 2.

Over the next few weeks, you may see crew members on-site taking care of the remaining details. This includes site cleanup, paving the final layer of bituminous asphalt near the end of the month, and performing a "saw and seal" treatment to the new bituminous pavement, which helps control expansion and contraction of the pavement.

We have received many questions concerning "why hydro-seed and not sod?"

In past projects, lawns disturbed by roadway construction have typically been restored with the use of sod. The contractor was responsible for the establishment of sod for a period of six weeks (42 days) from the date of installation. After the six-week maintenance period, the property owner is then responsible for the sod.

During 2012, residents and staff noticed portions of sod installed during previous construction seasons were not healthy. 2012 saw drought conditions for most of the year. Most of the new sod areas were brown, dormant and/or dead. This reflected badly on the construction project even though continued maintenance of the sod is the responsibility of the homeowner.

City staff hosted a "Construction Contractor Think Tank" meeting in January 2013 to determine the advantages and disadvantages of sod and hydro-seed. We wanted a turf product that property owners could properly maintain to establish long-lasting turf. Staff invited industry experts to this meeting including turf experts, contractors and consultants familiar with City of Edina's practices and clients.

Topics discussed included cost, watering, maintenance periods, proper long-term care, turf color, installation techniques, drought, fertilizer, chemical treatments, equipment, installation dates and foot traffic. It was determined that all construction projects in 2013 would be hydro-seeded in lieu of sod in an effort to keep costs down and provide a long-lasting product that can withstand long-term dry weather conditions. This product was used on the 44th Street Project between France Avenue and Highway 100 during 2011 if you would like to see an example project.

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A final inspection of all hydro-seeded areas will be made as the maintenance period nears completion in each respective stage. Please note, the contractor is required to maintain hydro-seeded areas for a period of 90 growing days from the date of installation. If the maintenance period does not end by Nov. 1, the remaining balance of the maintenance will carry over to 2014 and begin on April 15. Any turf areas' deemed unacceptable at the end of the maintenance period will be re-hydro-seeded at no cost to the contract. The contractor may apply a selected herbicide later in the year to control other weeds as needed. Healthy lawns are the best defense against weeds.

The green mulch material is placed to keep the soil underneath moist for ideal growing conditions. In some cases, the grass may not appear through the mulch material right away. The plant needs to establish a root system that is strong enough to get through the mulch material. Fall seeding also has the benefit that after the first frost of the year, grass tends to limit growth upwards and instead it focuses on establishing a strong root system. This system will assist it in the spring to continue growing.

This may be the final letter you receive from us. The final assessment amount will not be known until around September 2014. At that time, you will receive a notice of the final assessment amount, the date of the assessment hearing and details of the payment options.

Upon completion, the project will be placed in a 2-year warranty period. Palda & Sons, Inc. and the City of Edina staff thank you for your patience and cooperation over the past few months of reconstruction.

Regards,
Aaron Kuznia
Engineering Technician
952-826-0444
akuznia@EdinaMN.gov



HYDROSEED INSTALLATION

The disturbed areas of your lawn will be revegetated with hydroseed. Hydroseed is a product that contains seed, mulch, and fertilizer. It is sprayed directly onto the topsoil utilizing a water slurry.

Hydroseed is a proven performer, producing robust and healthy lawns in variety of conditions. Mature, seeded lawns are more resistant to pests and harsh weather than sod as they are grown in place from a seed mix specially selected for the area.

The contractor will apply the hydroseed and maintain it for 90 days. They will water and later, apply herbicides if needed. Even though the contractor is responsible for a good end result, you may assist the contractor by helping keep the grass moist. If you notice any large areas drying out, or if you haven't seen watering take place for several days, please call me and I will review the situation with the contractor.

HOW TO CARE FOR YOUR LAWN NEXT YEAR

WATER

Water your new lawn whenever the rainfall is less than an inch a week during mild weather or when rainfall is less than 2 inches a week during hot periods. New lawns need extra watering for their first two summers until they become deeply rooted.

FERTILIZE

A commercial fertilizer is applied with your hydroseed. This initial application will not need to be supplemented until late next spring. When you do fertilize, use a slow release fertilizer and follow the written instructions.

MOWING

A new lawn should not be mowed until it is 4" to 5" high and begins to lay over. The longer grass blades allow for more vigorous root growth. When you mow, keep the mower blades sharp to cut the grass cleanly. Set the mower deck at the highest setting for the first year. Do not collect the clippings. Let them biodegrade within the new turf. This helps feed the soil and grass while accelerating development.

PREVENTING WEEDS

Some weeds will likely appear in your new lawn. The contractor will control them by applying a selective herbicide. Weeds are best controlled by being crowded out by good, healthy grass.

If you have any questions or concerns, feel free to call me at 652-826-0444 or by emailing me at akuznia@edinamn.gov

Thank you for your continued patience and cooperation.

Aaron Kuznia – Engineering Technician.

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